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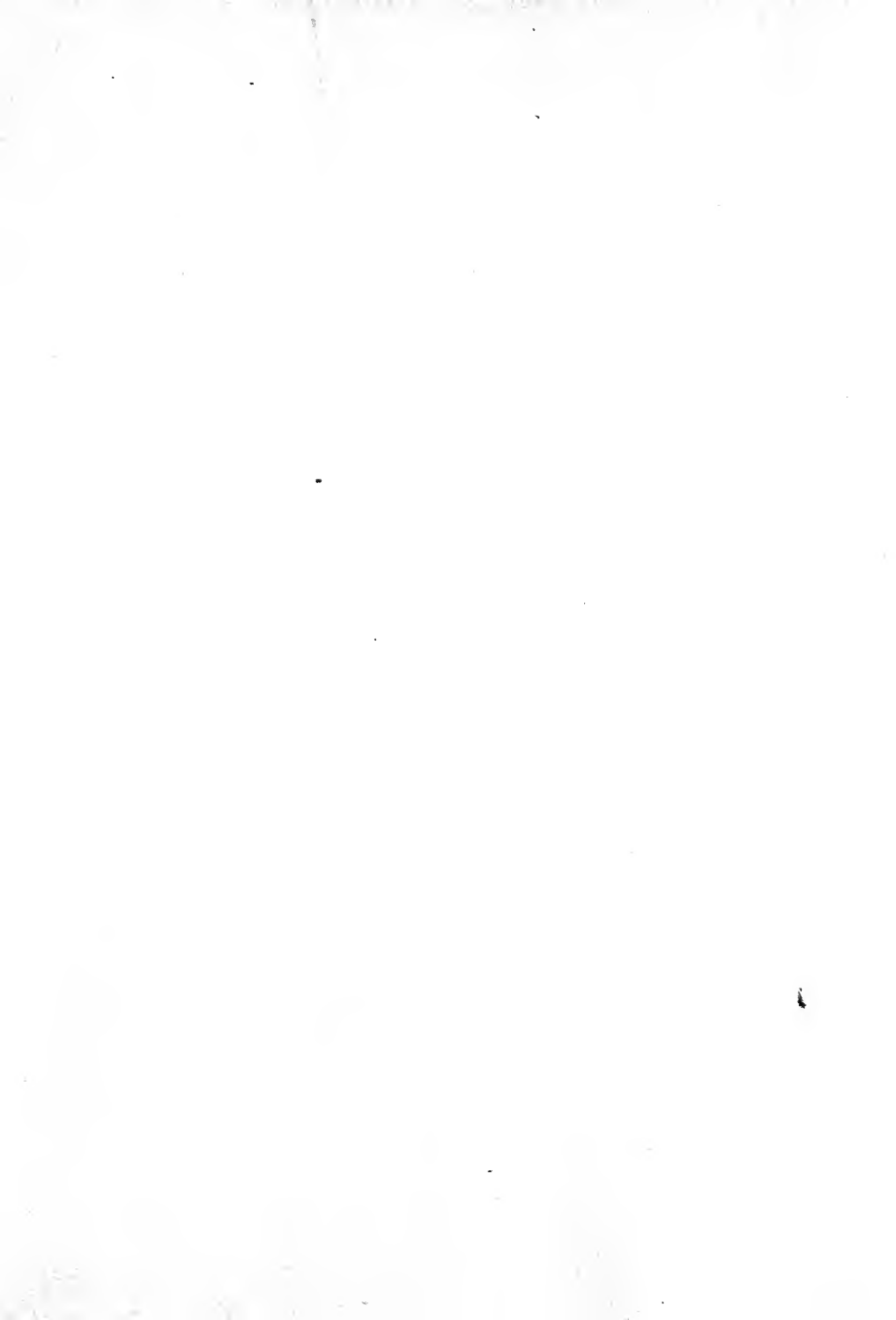


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The Old Farm House



Are You Interested in Nature?



A Handy Book
for
Planters and Lovers of Nature
with
Valuable Hints in General



By
ALFRED J. KULL
Practical Landscape Gardener and Engineer

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Price Fifty Cents

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THE IMPORTANCE OF PROPER PLANTING.

Planting of all kinds has been carried out on an enormous scale, and to a great extent it is largely due to many well-to-do settlers who have their estates laid out in beautiful country homes. For the past twenty years there has been more of this interesting work done than ever has been known in this country before, and many hints have been given to aid this interesting work. However many writers and advisors of this great problem do not always realize that this kind of work chiefly depends on the different locations, climate and soil. It will therefore be almost impossible for anyone without practical experience to be a trustworthy guide.

For the past twenty years there have been many questions submitted from all parts of the country and the writer finds great pleasure in giving the result of his long experience in this direction.

THE PREPARATION FOR PLANTING.

It is of great importance to have the ground and soil ready in time before planting. It will not only save time but it is also a benefit to the plants, and the planting is done at less expense.

A compost has proven to be of great value, not only for greenhouse purposes, but should be made on every gentleman's estate, and should be used not only for planting, but also to serve as a top dressing for lawns and flower beds, and particularly where the ground is found to be of stiff clay or red shale. It will prevent the ground from cracking, which is often the case. Humus or leaf mould cannot be too strongly recommended for this purpose, and should be mixed in all stiff grounds. Further information will be given on request.

A compost is made with a layer of manure and a layer of

soil, also everything that is gathered up as refuse from the garden and lawn which in many instances is left where it is obnoxious, but if used in a compost it will be to better advantage. A layer of soil should always be placed on top. Lime should be used more or less, especially when the soil is taken from a low bottom. This compost should be thoroughly worked over at different times and lime should be mixed with it. In many cases where the ground is composed of stiff clay, humus or leafmould can be used. Such compost should always be made at least four or five months before using.

THE DIGGING OF HOLES FOR PLANTING.

It happens too often that holes are dug too small for trees and trees planted in such holes have not the proper chance to grow. The roots must have some good mellow soil to start in, and if the holes are dug too small the roots will strike the hard banks forming the side of the hole, which in most cases, is too hard for the fine roots to grow in, and the tree will soon show the effect of the lack of support from the roots as in most cases there are not sufficient food properties for such trees.

The holes should be dug according to the size of the tree expected to be planted, but never less than twelve or eighteen inches wider than the spread of the roots of the tree you are planting. In so doing you will have a chance to spread out the roots in their natural position.

It will be quite necessary, in order to avoid needless labor, to know the kind and size of the tree you expect to plant, before you dig the hole, as it must be remembered that some trees that grow on hard bottom will spread much more than those that grow in loose and loamy soil, where the roots descend deeper in the ground. If you expect to plant trees that are from ten to twelve feet in height, the holes should be made not less than

three feet in diameter and from eighteen to twenty inches deep, depending on the nature of the ground. Good soil should be placed on the bottom of the holes to the proper height so that when the trees are set they will stand in their natural position.

The planting of trees is not always done to the best satisfaction, particularly in locating them, and when the trees grow to a large size it is then that the mistake is noticed, and in many cases it is too late; therefore it will pay to take advice in regard to this and for large estates, or where a large amount of work is to be done, it will save confusion, time and expense to have plans made for this particular work.

It is often found that on new places where planting is most needed, that the grounds have been filled in with all manner of rubbish and stones and if an experienced man had charge of such work these places would have been filled in with suitable material for planting, and in so doing it would have saved time and expense. Large sums of money have been spent unnecessarily where no architect or landscape gardner has had the work in charge or where no plans have been made, which are very essential in order to get results..



This picture shows a combination garden with a tennis court at the back and a group of evergreens separating it from the garden. The garden consists of roses and flowers tastefully arranged, also an immense large boxwood sixteen feet across planted as a centrepiece. A broad border of hardy flowers and bulbs is laid out between the path and the hedge surrounding the garden. There are four squares of lawn and in the centre of each is planted a fine specimen of *Biota Aurea Conspicua*. It also shows an idea of my own in the way of a summer-house, which looks neat and attractive and is constructed at a little cost.

WHY EARLY PLANTING IS BEST, ESPECIALLY IN THE SPRING.

There is a limit to the time of dormant planting for when the weather begins to get warmer, the plants will start to bud out, and if the planting is done before this time it will be much better as the trees and shrubs planted early will have a better start before the leaves and foliage come on and be stronger to stand the varying conditions of the weather. Early planting also gets the benefit of the spring rains. It is often found that trees and shrubs, if planted after their leaves have started to bud out, have completely dried up as the roots have not been in sufficient condition to support the tree.

THE SHIPPING OF NURSERY STOCK.

There is often a misunderstanding in regard to the planting seasons. There are two planting seasons every year from March to the first of June and in some cases evergreens are planted in June also. The planting seasons greatly depend on the weather and the deciduous trees and shrubs should be planted as early as the weather permits and before the leaves start to bud out. The fall planting starts in the latter part of August and lasts as long as it is safe for shipping. The first planting in the early spring is usually started with the deciduous trees and shrubs, and later, when the weather is more settled the evergreens are planted with more safety. The fall planting starts with the evergreens and hardy flowers and then the trees and shrubs after the leaves have fallen off. This planting can be carried on as long as the weather permits and if saved from frost. For larger trees moved with a ball of earth an explanation will be given later on in this book. At nurseries in shipping seasons there is always a rush and sometimes the shipping seasons are very short, depending upon the

weather. In order to avoid confusion, orders should be sent in early, as it often happens that an order sent during the rush season is mislaid and great misunderstanding and delay incurred. Orders are generally received at any time after the planting seasons are over to be ready for the next season, for all orders are filled as they are received, except on special occasions.

THE RECEIVING OF NURSERY STOCK, ESPECIALLY OF LARGE SIZED TREES.

It sometimes happens that nursery stock is delayed in transit and often completely destroyed. In such cases it should be carefully examined and not removed from the care of the transportation company as they are responsible for the stock. Often the nurseryman is blamed for delays of this kind, but this is wrong, as the nurseries have not charge of the stock after it leaves their hands. When nursery stock is received it should be unpacked as soon as it reaches the grounds, if the weather permits and if the ground is not ready for planting, it should be trenched so as to protect the roots from exposure. Plants are often left in the air too long, and it is not always considered, that the fine roots will soon dry, particularly in the early spring when the winds are very severe and will soon cause destruction to tender plants left uncovered.



THE PLANTING OF DECIDUOUS TREES AND SHRUBS.

The planting of trees and shrubs has been carried out on such a large scale that there should scarcely be any need of further explanation, but I would like to refresh the memory of the reader with some facts that many do their planting without due consideration, and there should be some difference between setting a post and planting a tree. A tree should always be planted where it can have at least six inches of good top soil on the bottom and also plenty of good soil surrounding the roots, and it should be put in position to correspond to the depth it was originally, after all bruised and broken roots have been cut off and the fine roots should be carefully spread out. This method should be followed in all planting. No trees should be planted before being properly trimmed according to the condition of the roots and sharp tools should always be used in trimming as dull tools injure the trees.

Thousand of dollars are lost every year on account of the neglect of trimming newly planted trees and shrubs, nursery men and dealers are sometimes unjustly blamed for such stock dying when it greatly depends upon proper care after the stock has been received. A practical planter will always have the roots of the trees he plants bedded in fine mellow soil. This process should be followed in all kinds of planting and no straw, leaves or manure or any other light material, should be allowed to come in contact with the roots, as it is very injurious and many trees have been destroyed on account of this mistake which is done with the idea of benefitting the plants. Absolutely nothing should be used for planting or covering the roots, except such soil that can be worked in between the roots, or where it has been mixed into a compost. Coarse manure and leaves can be mixed into a compost. Coarse manure and leaves can be used as mulch around the trees with very good results and will

keep the ground moist when placed on top. The use of a compost will always give better results especially where the ground is poor. There are fertilizers which I can highly recommend to take the place of manure and which can be safely mixed up with the soil and which have proven to give the very best results. In large planting I always use in each mixture one bag of pulverized blood, one bag of ground bone, two bags of pulverized sheep manure. These properly mixed make the best food for any plant and nothing can compare with this combination as it contains nothing but pure plant food and small quantities can be used to each plant, that is to say, the quantity has to be regulated according to the size of the tree or plant. I would like to say in connection with this matter of fertilizer that it is absolutely safe and no injury can arise from its use.

I have often been called to examine trees that have been planted too deep, which will be very easily noticed and it will not be necessary to say that if trees are planted too deep, the effect will soon be shown, as the bark will start to loosen from the tree, and it will gradually die. There are three distinct parts to a tree: the top, the trunk and the roots. The roots are adapted to be below the surface of the ground, and if trees are planted too deep the stem which naturally should be where it is benefited by the air but if covered with the soil it will soon show a sure sign of destruction. However, all trees are not alike in this respect as some trees stand to be planted much deeper than others.



THE PLANTING OF EVERGREENS.

I have often been requested to explain why evergreens require more care and attention than the deciduous trees and shrubs. The deciduous trees and shrubs have a time when they are in a dormant state, this means that this class of trees and shrubs have a part of the year when they have nothing to show of the real action of life, as the foliage has fallen off due to nature. During this period the roots have partly stopped their active work and the sap is not forced out into the limbs of the trees, which is the case when the leaves begin to grow. During this time this class of plants and trees can be taken up and planted with much greater safety than evergreens, as they have no foliage to support, for now the whole tree is resting.

An evergreen has a different habit. It has a green foliage to support the whole year round. The most valuable evergreens are dug with a ball of earth, that is, a certain amount of soil is left around the roots so as to keep them in their natural position and prevent them from drying out until they reach the destination where they are to be planted. An evergreen as well as any other plant should never be allowed to remain unplanted any longer than is absolutely necessary.

There are many different species of evergreens and most of them have a large top to support, and the foliage requires an enormous quantity of moisture which is taken from the ground by means of the roots, also from the air. It is not generally realized that a plant in healthy condition has somehow the peculiar power to take a certain amount of nourishment from the air which is needed for the support of its foliage, but if the roots fail to do their active work and the foliage commences to fade, the tree will soon be in a dying condition. It is of great benefit to newly planted evergreens to have them sprayed with water. If this is done in the evening after a hot day this will refresh the tree and has proven to be of great advantage. My long experience has

proven that the spraying of evergreens is far better than to water the roots, and in this process, naturally, sufficient water will also reach the roots. There is an interval from the time when the evergreen has been dug up and until the roots have taken hold in the new place where it has been planted. During this period the trees need to be specially cared for. I cannot too strongly emphasize this point, as I have often seen the bad results of too much water being applied to the roots, as they in some cases turn black and cannot stand the unusual quantity of water.

The planting and care of trees is very simple and easy, but it requires some practice in order to get a proper result, and my advice cannot mislead as it is based on practical experience.

For smaller evergreen planting the result will greatly depend on the weather as these plants, in most cases, have to depend on their own roots and have less care. If this planting, including forest planting, is done early it will be a great deal better on account of the spring rains. It is well known that an evergreen planted without a ball of earth will be safer to plant at a time when the plant is about to bud. But in estates where large amounts are to be planted, it would be almost impossible to regulate that part of the time. It would be bad to do this planting late in the season and in general the early planting has proven to give better results than the later planting.

Forest planting has been carried out on a large scale especially in the western states, but for the last fifteen years it has been more generally understood what a great pleasure and benefit it is to have a little forest planting done now and then. Twenty years ago, when I so strongly advised the great need of proper attention to natural forests, it was not much thought of, but better results have shown since that time. I then advised that large amounts of evergreens should be planted in our natural forests not only for the beauty but also for the protection of game. Forest planting should be considered as a necessity not only for pleasure but for its use, and our natural woods will pro-

vide place for planting not only evergreens but for more hard wood trees, which will be in great demand in time to come. For smaller forest planting it should be carefully considered that in many places there will not be sufficient soil as the surface of the ground often consists of stones and refuse from the trees which are not desirable to plant in, and therefore it will be of great value to have some fine soil delivered to certain places and only a small amount is needed for each plant. The plants should be held between the two hands in the holes made for planting. The hands held in this manner will prevent sticks and leaves from coming in contact with the roots which should be strictly avoided but will do for surface covering.

PLANTING IN GENERAL, ALSO IN LARGE SIZES OF TREES.

There are two planting seasons for evergreens as well as deciduous trees, but I prefer the spring planting for evergreens, but the latter part of August and the month of September are also the general time for evergreen planting, the fall planting is not always in favor on account of the dry and hot weather which are partly the objection for evergreen planting at that time. If evergreens are planted late in the season they will not have a good start before the cold weather sets in, and it is often that trees planted late in the season will die, this is in most cases due to the fact that the roots have not been in working order before the cold sets in and it is quite clear that an evergreen must be in good order to stand the winter. If an evergreen is moved with a large ball of earth it is quite safe to be moved almost at any time. Evergreens in sizes up to forty feet have been moved on a large scale in many extensive estates where such planting has been desired.



This picture shows an old farm house where the ground is planted with good sized trees with the result of an attractive effect which would have taken many years if planted with small trees.

The deciduous trees are more easy to handle than the evergreens in large sizes. It has been previously mentioned that the former trees are safer to move as they are without foliage at the time such work is done and they will stand more exposure as long as the root can be kept safe from freezing and drying. They can be moved at any time during the dormant state. Large trees have also been moved when the foliage has been in full prime, but this is not advisable and is only done on special occasions and done with great care. The large deciduous trees can be moved much easier than the handling of evergreens of the same size. The deciduous can be trimmed to suit the conditions, but evergreens are not adapted to be trimmed as are the previous trees and shrubs. It is often found that the bark of newly planted trees will crack. - This is mostly the case in trees where the roots are not in working order and they have not obtained their needed moisture. This happens not only in trees of large size but also in trees shipped from nurseries, if planted late in the spring, especially trees over three or four inches in calibre. For late planted trees it has been found of great benefit to have the stem covered with straw matting or heavy burlap, this will help to hold the moisture until the roots are in working order. This method is used not only for late planted trees but is a benefit in any occasion, however this material should not be left around the trees more than one season on account of insects which often gather in such places. It is well known that the very best of trees can go back and die and in many cases it is the proper care of a tree after planting that has a great deal to do with the expected success. Sometimes it happens large trees are required to be moved but it must be borne in mind that it is not only the cost for moving the trees, but the care of the trees after planting are also connected with expense, the spraying, the guiding and the mulching of trees are mentioned in other paragraphs in this book. It is also the digging around the trees which is of great importance, not only for large trees but also for smaller trees and

shrubs. It is often seen where weeds and grass are allowed to grow among the shrubbery and young evergreens and in many cases the stock planted is completely smothered and dried out. and it also takes all the food products away from the plants. Stock is frequently found with a heap of earth banked around the stem; this is very wrong, the earth should be thoroughly dug up at different times during the season so that the ground may become mellow and when it rains the water can more easily work down to the roots and they will be kept moist for a longer period. Larger trees should be dug around for two or three seasons, during which time a larger space can be cultivated and then can be narrowed up as circumstances may require. Around small trees the ground should be worked up forming what is called a "water dish," this will prevent the water from running off, when it rains.

The transplanting of large trees has become very common and it is nothing to get an order to move trees that are forty-five to fifty feet in height, and we have all evidence to show that this can be done with good results if proper care is taken after the trees are planted.



THE MULCHING AND WINTER PROTECTION.

The mulching is very important in many cases, especially where flowers and smaller plants have been planted late in the season. It often happens that where no cover has been used, such plants have completely worked out of the ground and have been destroyed from exposure. This is due to the changeable weather. The freezing and thawing sometimes causes the ground to heave and leaves the plants on top of the ground. If covered with compost, manure, leaves or anything which will protect them and retain a more regular temperature, so that when it thaws it will not affect the ground under the cover but will allow the frost to pass off gradually, the ground will also be enriched.

Many delicate plants can be protected through the winter by covering. Judgment must be used in the matter of covering. It is frequently noticed that plants which have been covered too early, have been completely destroyed by bugs and creepers of all kinds. These insects live in just such places in the winter and cause great destruction to the plants.

All plants that demand protection for the winter should not be covered until there has been some cold weather which will kill the insects. If the old tops of the flowers have not been cut off it should be done now and the plants covered with a coat of mulching or manure. Any plants which are very sensitive to cold should be taken inside for the winter, during the month of November or before, depending on the climate.

Early mulching not only affords a convenient hiding place for destructive insects, but by becoming too warm, will start the plant growing. This new growth will be injured later by the cold weather. Plants cannot stand too heavy covering of this kind if the weather is mild, but if the ground has been slightly frozen before mulching the temperature will be better regulated and thus insure their preservation.

Not only are flowers and other plants heavily covered, but roses are often bundled up early in the fall. If there is a period of warm weather, great harm is done by the buds starting to grow and becoming frozen later. The bark is often completely ruined by injurious insects. Such a covering should not be applied until there has been some cold weather and then only a light one is necessary.

There may be cases where some delicate plants need to be covered early. It would be well to spray such plants and spread some wood ashes or tobacco stems on the ground before covering.

Only the delicate varieties of evergreens, such as Japanese and Boxwoods are covered. Especially the first year after they have been planted and wherever there is much exposure to the wind. In many cases the snow and the sun do more damage than the cold, as the tender foliage cannot stand the strong sun after exposure to cold and snow. Most of our evergreens are very hardy and can stand the cold without protection. Spruces and pines are often planted as wind-breakers and as protection for more delicate plants, flower gardens and places where shelter is needed on account of their size and strength for withstanding the storms of the winter.

The protection of these delicate varieties of evergreens can be carried out in many ways. A very inexpensive way is with long straw or corn stalks. Four heavy sticks are necessary for a large plant. Place these firmly in the ground with the small ends up and then fasten the tops together with a heavy cord or wire. The sticks should be bound together their full length at intervals of two feet in order to give the covering support without crowding the plant. A heavy covering is not necessary except in special cases and then manure can be placed around, which will hold it firmly to the ground. Branches of evergreens wherever available are the most suitable for winter covering. If such branches are a little taller than the plants which you are

covering they will serve as a very suitable protection by merely placing them in the ground around the plants and tying their tops together. Only a very thin screen is necessary to protect them from the wind and snow and to prevent the sun from scourching them after a heavy frost. Some plants will not stand the sun on their tops after a heavy frost on account of the quick change. This method is much better and easier to carry out.

The covering and mulching of lawns is very necessary to keep them in good condition. The fine grass will not stand the changeable weather as is shown by the appearance of bare spots in the spring. These spots are caused by the heaving of the ground which leaves the roots on the top of the ground to die of exposure. This is especially dangerous to newly planted lawns where the grass is young and tender and the very small roots have only a slight hold in the ground.

Although straw or any light material may serve as covering and winter protection for lawns there are many instances where after having been used for years, it has been found unsatisfactory. Each year where most remains the grass grows over it, finally forming a coat of which the roots take hold. Frequently this coat scales off and leaves bare spots which are very noticeable. These places should be reseeded and rolled as soon as the ground permits. The rolling is necessary every Spring to press the roots into the ground and to produce a smoother surface.

There is nothing better than compost for lawns. This is very substantial and contains all the necessary grass food. If the ground is naturally hard or clay, plenty of humus or leaf mold should be mixed with compost. Wood ashes are splendid for garden use and for mixing with compost. In many cases wood ashes are thrown on roads and paths where they might serve as an excellent fertilizer for garden and for placing around fruit trees.

The full directions for the preparation of compost have al-

ready been given in this book. The best result will be obtained if the compost is put on as a lawn dressing after the cold weather has set in. In early spring the lawn should be raked and rolled. The material left after the raking is substantial enough and contains enough food products for the grass.

The mulching in summer for keeping the ground moist and around newly planted trees has already been described.

THE GUIDING OF NEWLY PLANTED TREES.

It is a matter of great importance to have trees guided, especially trees of large size. In guiding trees it will not only keep them in proper position but also lead to a quicker growth, as it will be almost impossible for the roots to take hold if the top of the tree is waving to and fro in the wind, and often such trees have been blown over to a certain extent and they have to be replanted. Trees up to fourteen feet should be guided with one stick firmly in the ground eighteen inches to two feet and close to the stem. This stick should be from five to six feet from the ground after being set in place. A small piece of burlap or hose is fastened around the tree on a level with the top of the stick and stout cord to bind the stick and the tree firmly together. The string is wrapped around the tree two or three times to hold the burlap in place. It is then carried around several times taking in both the stick and the tree within an inch of the top of the stick then the string is forced several times between the stick and the tree and then firmly tied. In doing this for smaller sizes of trees it will keep them firm and look neat. Large trees should always be guided with three wires at an equal distance where sticks have to be used for fastening the wires and when the wires are fastened the sticks should be cut off level with the ground as it gives a better appearance. This method is also followed in guiding evergreens with the understanding that small evergreens

are more adapted to be guided with wires than with sticks and it will be plain that in guiding larger trees more substantial guides will be needed, and sticks not less than two feet in the ground for your wire guide.

Large clumsy sticks should never be used in guiding small trees, as they will not harmonize with a well-kept place. Well seasoned sticks not larger than the calibre of the trees should be used. It is sometimes seen where large clumsy sticks have broken loose and hang resting on small trees. This not only looks bad but it is an injury to the trees. The guiding of trees, however, greatly depends on the condition of the ground and where the ground is made up of new-filled or where the ground is unusually loose, the guiding and sticking of trees should be adapted to the need, as it is quite necessary to have the sticks deeper in the ground where the ground is soft in order to make a substantial job especially for large trees. After a tree has been guided a whole season it will be well to take the burlap off and if the guide is still needed a new piece of burlap can be put on. When the burlap is removed after the first season it is quite important to have the stem thoroughly cleansed as it is often found that insects lay their eggs under just such a cover, it will also give the trees a better chance to expand.



It is not only the transplanting of large trees that is of great interest, but also specimen dwarf shrubs and dwarf evergreens, such as boxwood and other plants of great merit which sometimes grow to an immense size and beauty. The accompanying picture shows a boxwood ten feet high and sixteen feet spread, with a ball of over twelve feet. This was moved and planted in North Carolina.

TO SELECT TREES FOR THE PURPOSE OF MOVING THEM.

It is often overlooked and great mistakes are made in selecting trees and an experienced man should examine such trees intended for moving and trees needed for this purpose should be in the prime of health. It too often happens that trees are moved without being examined and if unhealthy trees are moved it will only be a great disappointment, as the expense for moving an unhealthy tree is the same as if the tree had been in a good condition. It is not advisable to do this kind of work except it is fully understood that it is connected with more or less expense after the trees are planted. It takes a generation to grow a large tree, and what nature has done for many years in order to produce a large size tree, it cannot be expected to be done without the best of care. It is not often realized what a great demand of nourishment a large tree will need. My attention has often been called to examine large specimen trees that have been left where grading or excavating have been done and sometimes found a mound of earth from thirty-five to forty-five feet wide left around the tree. In most cases such trees will gradually die. In the first place the ground is graded to a slope all around the tree preventing the water from getting at the roots, and in long dry spells the tree will suffer from the want of moisture. In the second place part of the food supply has been cut off from the tree, such trees will show from year to year the effect of destruction and gradually will die for the lack of proper attention from the start.

It will be of great value for such trees if a concrete wall were built around the mound at a proper distance from the tree to be level with the bottom of the tree. Inside of the wall good rich soil or compost should be packed to the level of the wall, if this is done it will prevent the great waste of water and be what is needed for the tree. This gives an idea how important it is in



Often trees of medium size have to be moved from difficult places and during the season when such work, in general, cannot be done. It has occurred at different times that trees have been too heavy to handle without the aid of implements. My patent tree lifter is a very simple arrangement but has proven to be of great value for moving this kind of tree. The object of this is to lift a tree straight up from the hole after it has been balled and can be carried with ease anywhere. This will prevent the breaking of the fine roots which is often the case when trees are tipped over. It will also hold the ball firm together. This picture shows the general idea.

moving large trees and the great need of as many roots as possible and often a ball for large trees is dug eighteen feet across depending on the location where such trees are grown. There are many different ways to move trees, however. The best and safest way for moving trees that have not been transplanted is to dig a trench around them a proper distance from the trunk two or three years before the trees are moved and the trench refilled and if necessary with better materials—in so doing the roots will heal and fine fibres will grow out and the trees will be as good as transplanted and will give better results in moving.

Large trees can be moved without any earth if the roots are properly cared for and moved without risk of freezing if the roots are not left too much exposed. If such trees are planted in with good soil and plenty of water so that the roots get settled in their natural position in the soft puddle as we call this kind of planting "puddling trees." This has proven a very good way and gives an excellent result.

I have often found that the spread of the roots much depends on the top and I fully believe that the top will show how far the roots are spreading and the digging around the tree should be judged accordingly. For instance a cedar in some parts of the country grows slender and tall and cedars of this kind, from sixteen to eighteen feet in height can safely be taken up and planted with a solid ball of earth from three to three and a half feet across and from eighteen to twenty-four inches thick, depending where they grow. In some locations, especially in the south, the same species of trees and the same size, will require a ball of earth from six to seven feet across. This is due to the great spread of the top and such trees are more difficult to move and require greater care.

THE USE OF DYNAMITE IN PREPARING THE GROUND FOR PLANTING.

Twenty years ago when I first used dynamite to save labor in digging holes for large tree planting, it was not then thought of using dynamite for agricultural purposes and tree planting, but now it has become more popular and is being used in large quantities on many occasions. For the past ten years I have done much planting and dynamite has been used on a large scale with great advantage for large as well as small planting, and it is indispensable in loosening the ground, especially where it consists of clay or hard shale, and it has proven to be of great benefit to the trees in many ways. In the first place it is very easy to dig a hole after a small amount of dynamite has been used. This will also loosen the ground in the bottom and will give a better drainage to the water which in many cases will stand for a length of time and often the roots turn black and the trees will eventually perish. For small planting half a stick of dynamite will be sufficient but for larger tree planting from one to five sticks will be required, depending on the size of the tree you are to plant and the kind of ground you are working in. For smaller trees and shrubs that are to be planted in groups the dynamite should be placed in holes from three to four feet apart and from twelve to eighteen inches deep. A third of a stick of dynamite will often be enough, this, however, depends on the nature of the ground. If large trees have to be planted, the charge must be regulated accordingly. In setting off a charge it is very important to use a battery as it is easy to do and safe to handle. It frequently happens that a tree planted as a specimen goes back from its original foliage and color, and this occurs not only in planted trees but also in natural growing trees. The reason in most cases is that the tree is starving and is in need of nourishment. It seldom fails to give good results if a trench is made around the tree two feet wide and two feet deep

with the understanding that no roots or small fibres should be cut. The trench should be made from three to five feet from the stem of the tree and in some cases wider depending on the size of the tree. The trench should be filled in with good rich compost which must be solid packed, and three or four ordinary drainage tiles, should be placed in the trench at equal distances from each other standing upright from the bottom of the trench, the upper end will serve for watering purposes. In watering such trees you will find that as long as the water sucks away from the tiles the tree is dry but when the water stands in the tiles no more water is needed. This method of using tiles is also used in large tree planting and gives good satisfaction.

Dynamite has been used for the same purpose and has given quick results but it should be used with great care, the holes should be made from two to two and a half feet deep and if the tree is from six to eight inches in diameter the holes should be made from four to five feet from the stem and in five different places about equal distance apart forming a circle around the tree. A third of a stick of dynamite will be well to start with, but not any more should be used for smaller trees and sometimes a quarter of a stick is plenty. For larger trees the holes should be made from six to eight and even ten feet from the stem, depending on the size of the tree, and eight to ten holes can be used. For very large trees ten to twelve holes will be needed and not less than three feet deep and a third to half a stick of dynamite can be used but this will depend on the nature of the soil at the bottom. After such blasting is done rich manure water should be forced in together with good soil into the holes so as to get the empty spaces in the ground perfectly airtight. In this case, if needed, a tile can also be used with the same result as I have mentioned before. Dynamite has been used in the same manner for taking up large trees for transplanting when trees are moved without any large ball of earth, but where as much of the roots as possible are taken with it. The dynamite is

placed in the same position as has been previously described orly closer together and in most cases less dynamite in each hole, and care should be taken to work the holes between the roots so as not to injure the roots. This way of taking up trees has not been in general use but I have found it a very good way and if handled carefully so many roots will not be destroyed as sometimes when dug with a spade, as many fine firbes are cut without any thought. For the planting of hedges in difficult places holes should be made from three to four feet apart and even closer and from a quarter to a third of a stick of dynamite should be used depending upon the kind of ground, holes to be from fifteen to eighteen inches deep. By so doing a hedge can be planted in almost any place. The same manner is used for trenching or drainage only with deeper holes and heavier charge depending on the ditch or channel you expect to make. Enormous quantities of dynamite are used and it is almost impossible to do without it for clearing land, blasting stumps and rocks and other heavy work of this character. The use of dynamite is clearly explained in magazines and books given out by the DuPont Powder Company.

THE TRIMMING OF DECIDUOUS TREES AND SHRUBS.

Trimming is done in many ways. Flowering shrubs are often ruined especially when a shrub of tall grown habit is trimmed to a short stubby bush in order to obtain a different shape from the original habit. In the first place the flowers are in most cases cut off and if trimmed too often during the season it will soon be so thick at the bottom that it will smother itself. We have in cultivation plants of all description and where a plant of globe shape is needed it can be obtained exactly as you want it, and no better can be produced artificially. It will pay to look over

a description catalogue as it plainly explains the natural habit of every shrub and tree that is grown and it will give you more pleasure and save time.

The trimming of trees and shrubs including fruit trees is not always done to the best advantage and need. Too often trees and shrubs are trimmed from the top only but not thinned out from the inside, which in most cases is the most important. You cannot grow fruit trees and expect to obtain first class fruit except you are careful in the trimming and not leave too much of a thicket on the top. It means that there shall be every chance for the sun and air to come in contact with the fruit. There are also many shrubs that will not stand much trimming from the top such as lilac, magnolia and many other species. If such trees are trimmed too much at the top, the buds will be cut off with the result that the shrubs will bear no flowers that season. Before trimming is done trees and shrubs should be carefully looked over and no inexperienced person should do this except with advice. There are special cases where trimming needs to be done in a different way, mostly where young deciduous shrubs and hedges are planted. For instance, in planting a privet hedge, if this is cut down to the ground it will be easier for the roots to produce young healthy growth which will come up thick from the bottom and make a more beautiful hedge and be much easier to keep in shape, but this trimming is usually done to a privet edge only and not for shrubbery in general, except where a shrub has died down to the bottom and if cut off to the ground it sometimes produces a new growth. I have mentioned before sharp tools should always be used for all kinds of trimming including the flowers. It means not only flowers on a shrub but also for flowers in general. If a flower is broken off leaving a ragged and split stump it will produce less flowers and be destructive to the plant. If a flower is cut with scissors or a sharp knife the cut will heal and sprout out close to the cut.

THE TRIMMING OF EVERGREENS.

It has partly been explained why evergreens are not trimmed so much in general as deciduous trees and shrubs. This is due to the fact that evergreens will not stand to be trimmed in the same manner as the previous kind, as they require a more particular time for the trimming. On the other hand it is not done so much because this class of trees grows more compact and makes more of a specimen plant. Many evergreens are trimmed for special purposes as well as for better results. The best time for trimming evergreens is when the buds start to break, generally in May or the first part of June. If evergreens are trimmed at the same time as deciduous trees it often leaves a dead stump which will stay for a long time, but if trimmed when they are in their prime of growth or growing season, the cut will heal and grow over. Often in moving evergreens limbs and small twigs are accidentally broken. These should be carefully cut off before they show a bad color. Cedars are one kind of evergreens that can stand trimming much better than many other species of this kind. Cedars often go back on the color after being planted for different reasons and if trimmed close in proper time it often produces a thick growth and will make a fine specimen. Cedars have been planted for the last fifteen or twenty years and cannot be too highly valued for the fine effect where such planting is needed, and if handled with special care, almost any size can be planted with good result.

THE TRIMMING OF NATURAL GROWN TREES IN GENERAL.

It is so common to see that holes have been formed in the stems of trees, especially of large sizes, and this is in almost every case from a limb which has been dead and started to decay on the tree and it will not be long before the tree shows the effect

of destruction to a certain extent, which like a disease, grows worse every year. If the limbs are not taken off properly after the circulation of the sap has stopped in that dead limb, it will not only dry from the top but it will start to decay from the heart of the limb as it will not stand the moisture from the live part of the tree after being cut out of the natural order to take up the sap supplied by the roots of the tree. This damage to trees is not only in such cases where dead limbs are left until they fall off themselves, the same result will be from all dead limbs if they are left on the tree, therefore it is of great importance to have all such limbs trimmed off close to the stem as soon as the disease is noticed, this will not only prevent the tree from decaying but also it will be much easier to grow over. It is widely known, that hollow trees can be cemented air tight after the inside of the tree has been thoroughly scraped and cleaned. But even this will not give the pleasure of a long life tree. It preserves the tree to a certain extent, but is often expensively done. I use a healing salve for all cuts in trimming which is in fact the best remedy known for healing cuts in trees. It consists of a mixture of pine tar, bees wax, linseed oil and a little white lead. This will not only aid to the healing of the cut on the tree but it will keep it from exposure.

THE DESTRUCTION OF INSECTS.

The destroying of insects has been a great problem for years and the damage done by insects every year is enormous and nearly all plants and trees have a destroying insect somehow adapted to feed on the sap and foliage of the trees and plants. The work of destroying insects has been carried out on a large scale and many different ways and means are employed for this purpose. In nearly all books of horticulture a great deal of advice is given to this effect including the spraying of trees in the early spring,



This photograph shows a cat intent on robbing a bird's nest which the trap belt prevents.

but the fact is not generally thought of that many insects lay their eggs in the warm weather when the leaves of the trees are all out, and the foliage of many trees will not stand the spraying. Insects lay their eggs in the cracks of the bark and in any hiding place suitable for the multiplication of insects which will later aid in the complete destruction of the tree. A trap belt has been made for the purpose of destroying insects whose habit it is to creep upon trees looking for shelter and food. It consists of a metal collar and a strip of felt, the felt is thoroughly saturated with chemicals which are the most destructive to insects. This felt is fastened to the belt and the belt acts as a protection of chemicals and prevents them from exposure, and nothing except insects can come in contact with this poison. The chemical can be used in different forms and in the South, where the large black ants are very destructive to the orange blossoms, the chemicals can be placed on the felt so as to completely stop the ravages of these pests. Thousands of birds and admirable animals have been killed by coming in contact with deadly poisons set for insects. My trap belts have the advantage that nothing can come in contact with the poison except the insects. The belt can be placed close to the ground for insects, but for protecting birds it should be 5 to 6 feet up from the ground.

This trap belt has also stood the proof for its real value not only as a device for the destruction of insects but also for the protection of birds. This belt may be used without felt, if desired, and the prongs, which are sharp pointed, will prevent animals which feed upon birds from climbing trees, it also prevents boys from destroying bird's nests. Thousands of song birds are killed every year by cats alone and it is easy to see that song birds are getting more scarce every year. Few realize that our happiness largely depends on our surroundings, the greatest and the nearest things that come naturally to our minds and feelings are the trees, the shrubs, the flowers and the green grass. If a bird is singing in a tree for you outside your window, this

also belongs to nature though of a different quality and adds to your happiness. If you are a lover of nature, as I am, you cannot afford to separate anything. You should not take care of your trees and flowers and lawn and not do anything for the birds. This little friend is so interesting and so harmless not to forget the great pleasure they give us in many ways and the multitude of insects they feed upon which would be a destruction to the country had not these little lively friends been such a good help to the destroying of insects. They do everything for your comfort and pleasure, how much do you do for them? And yet so many useful birds are killed every year when it can be so easily prevented by using this trapbelt which costs only a trifle. True pleasure comes from nature and we should protect nature and also the birds, as they are a combination of harmony.

In conclusion I would like to say that this trap belt is of great value in the South where rats and other destructive animals cause great damage to cocoanuts and fruits which means a great loss to the people down there, and there is nothing more simple than this belt which is so useful and can be handled so easily as it is held together by one strong spring only, so that the belt can be put up and taken down in an instant. There is nothing about this belt to injure a tree and when it is removed it will not leave a mark on the trunk of the tree as often is the case when other remedies are used.

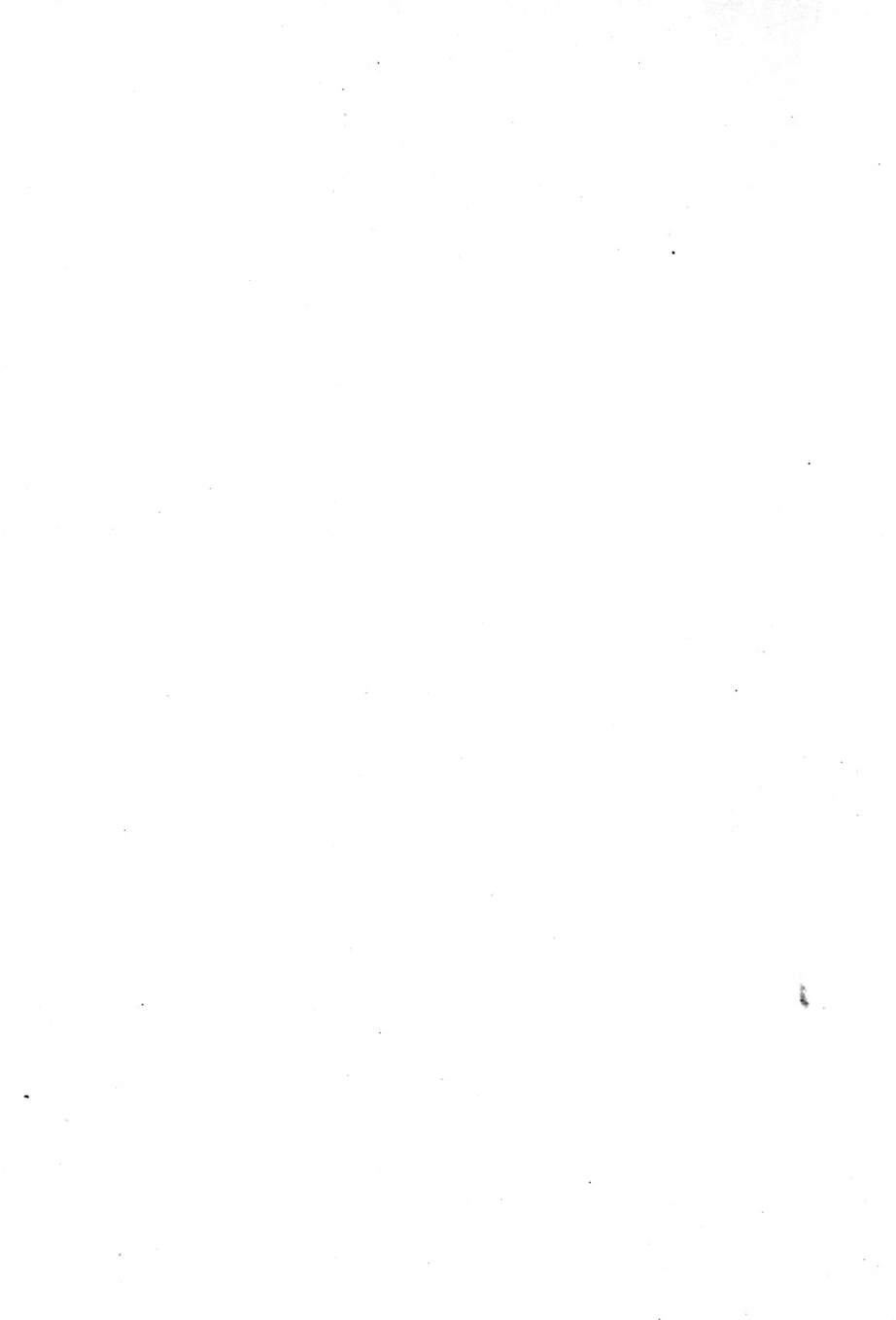
To the reader I wish to say that the hints and advice given in this book have been taken from many years' experience and I hope that this book will be read with interest and pleasure.

ALFRED J. KULL,

Landscape Gardner & Engineer,

February, 1916.

FAR HILLS, N. J.





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